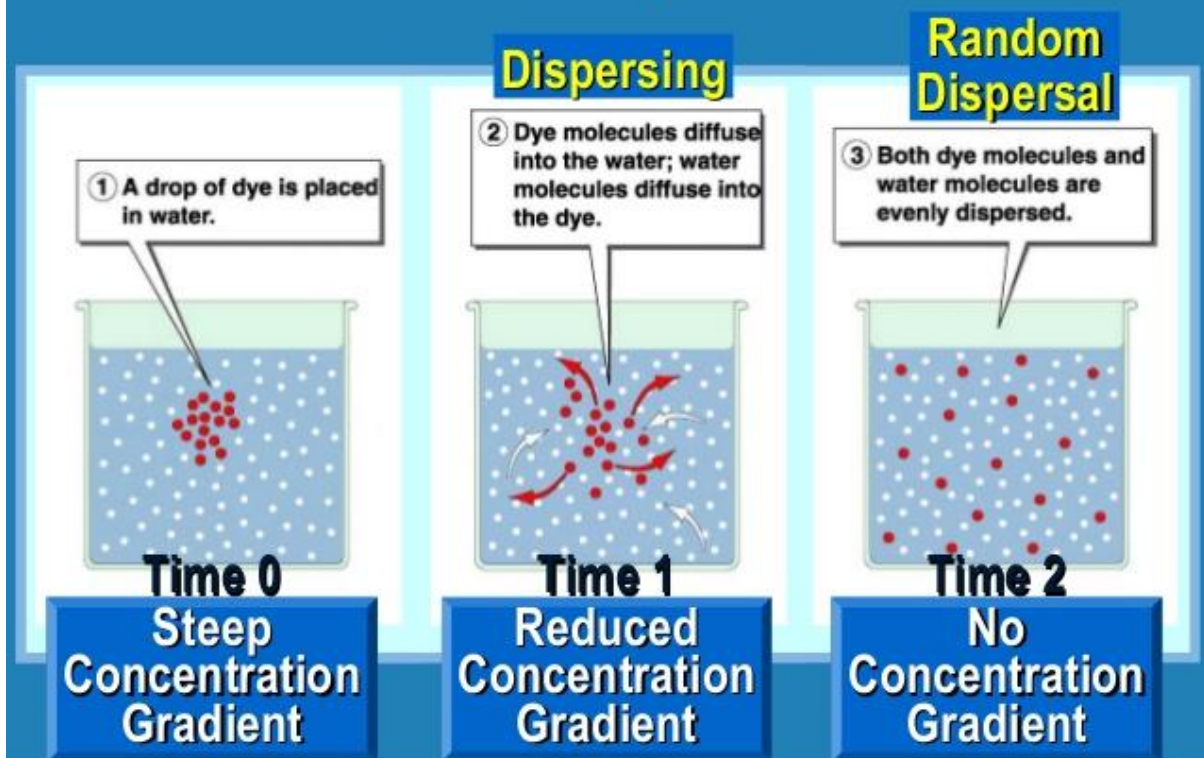


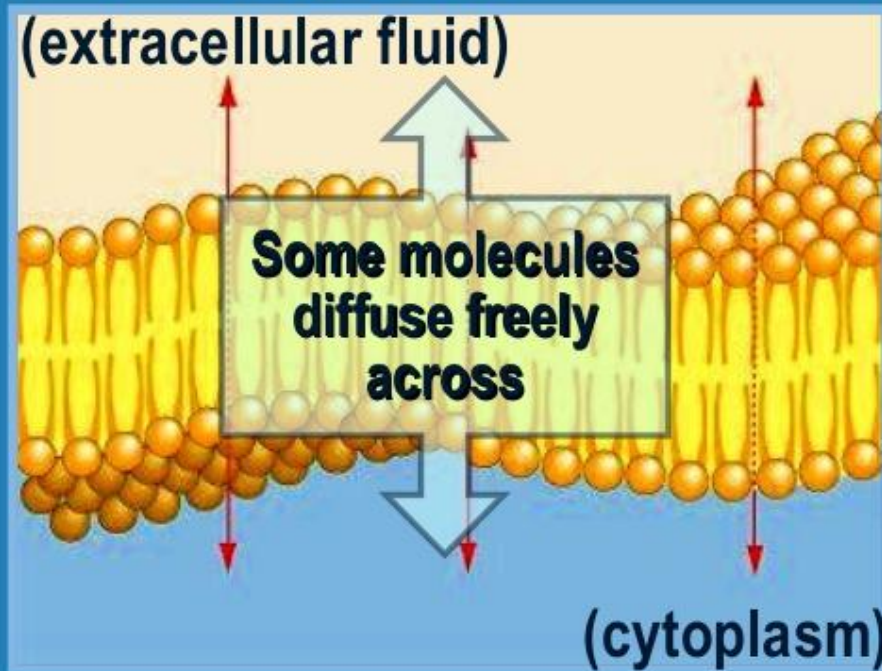
## Transport Processes

- Movement of substances across the cell membrane
- Passive transport
  - Substances move from [high] → [low]
  - No energy input required
  - Simple Diffusion, Facilitated Diffusion, Osmosis
- Active transport
  - Substances move from [low] → [high]
  - Requires energy input
  - Protein carriers, Endocytosis, Exocytosis

## Diffusion of Dye in Water



# Simple Diffusion

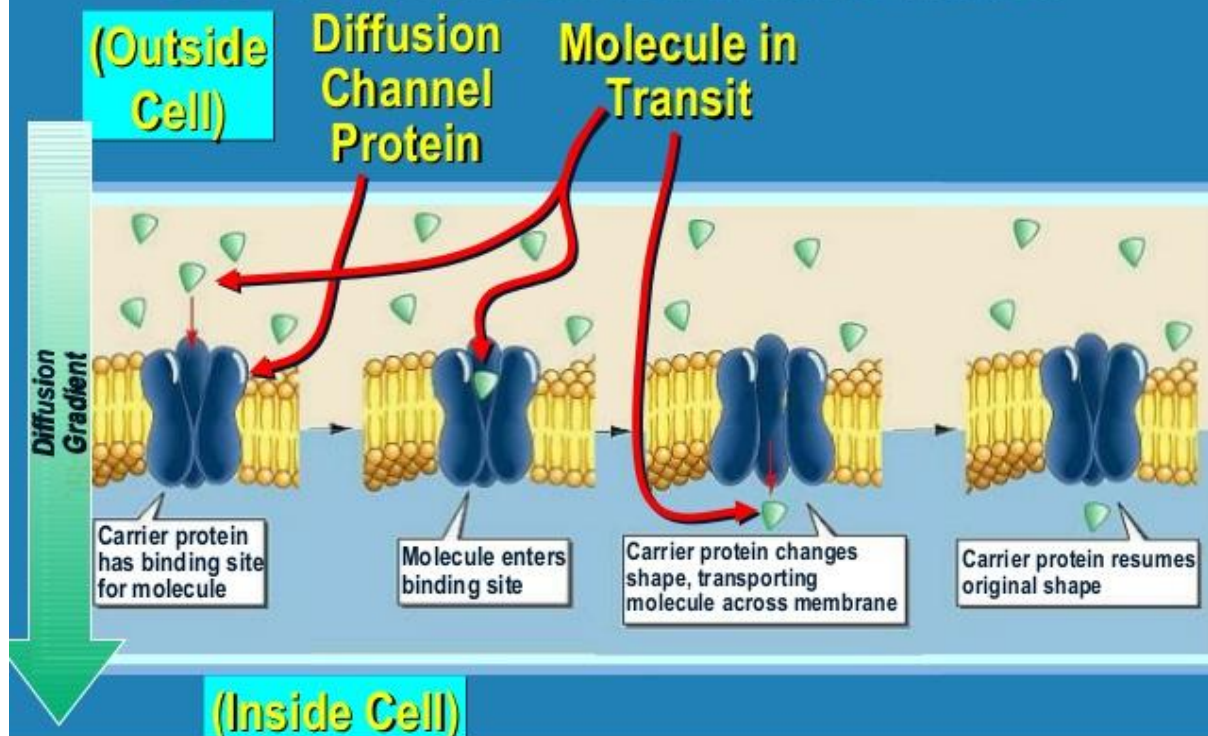


Now known to require transport proteins called aquaporins

(lipid soluble molecules,  $\text{CO}_2$ ,  $\text{O}_2$ ,  $\text{H}_2\text{O}$ )

# Facilitated Diffusion:

Use of Carriers to Assist with Diffusion



# Osmosis

- Diffusion of water across a differentially permeable membrane
- Water moves from [high] → [low]

